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FUTURE VISION AND PLANNING FOR THE GEORGE BROWN COLLEGE SIMULATION CENTRE: RESEARCH AND DEVELOPMENT

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ABSTRACT

Heavy workloads create challenges when students are in their practice settings.

Many health care practitioners state a lack time to adequately mentor and supervise student activities and fear students not being adequately prepared for the busy units. Students are prohibited from practicing most psychomotor skills on clients without a prior demonstrated level of proficiency and application of knowledge. As client safety is never jeopardized, students' exposure to learning opportunities, efficacy, and sense of team is challenged within the status quo. The effects of diminished work integrated learning environments for all College students of different disciplines are also being felt. It is time to revisit the use of simulation education in a holistic manner.

KEY WORDS: simulation, future-scape, curriculum, research, quality assurance.

INTRODUCTION:
A growing dilemma plaguing all post-secondary educational institutions and will continue to impact program requirements is the need to provide work integrated learning opportunities for their students. This phenomenon is upon us as institutions of higher learning feel the dire impact in dwindling opportunities for their respective students. Whether in health or other program offerings, the student practice placement options, opportunities, and experiences have dwindled significantly. With this in mind, the broad definition of simulation by Merriam-Webster (2008) defines simulation as the act of imitating the behavior of some situation or some process by means of something suitably analogous. This has the potential to assist in creating a fully encompassing holistic view. Hence Colleges can play a significant role in filling the void of work integrated and experiential learning opportunities in their communities.

Another dilemma facing education today is that of providing meaningful experiences in team-based learning. Regardless of the discipline, we are all trying to inject collaboration and team-based skills in the respective curricula. This conundrum has pushed Colleges and Universities to explore new ways of using high-fidelity simulations and virtual reality components. In order to move conventional centres of simulation practice to a new model, institutions must ask themselves these six essential questions.

The questions that need to be answered going forward are:

1. What will the Simulation Centre look like five years from now?
2. What are the space design requirements?
3. What will evaluation look like?
4. What capacity is required and how is it built?
5. How is sustainability and research built into the Simulation Centre?
6. How do we maintain quality assurance of the learning paradigm?

A beginning step on the journey to answer the six key questions is the statement of purpose of the Centre itself. To delve into the issue of the Simulation Centre's future, its purpose must be well defined. Research supports the benefits of simulation as an adjunct to education, as well as a means of fostering team-based work and interprofessional practice (IPP).

In the Health sciences field, the Simulation Centre represents a strategic shift towards the integration of multiple health professions, which is a crucial factor in the reshaping of health-care delivery for the future. By learning in a collaborative, inter-professional and patient-centered environment that simulates the real world, students will gain the ability to think critically and work on teams, and an overall understanding of collaborative practice - ensuring that their focus as professionals is on holistic patient outcomes and well-being. Time spent in simulation labs prepares students to critically think through complex case situations, prior to clinical experience in a practice placement or work environment. Simulation be utilized in the opposite direction as well. Where it consolidates the student's learning post practice experience. The lessons learned through health sciences will certainly help us to pivot the Simulation Centre as a key learning adjunctive for all learners regardless of their field of study at College.

With respect to the other Divisions who will be engaged in simulation, the defined curricular outcomes will need to be articulated and built into the case scenarios. Whether it is a simulated business boardroom, construction site, community-based agency meeting, culinary or hospitality project, distinct ways to capture the real-life experience will be paramount to the success of the simulated exercise. There is a lot to be learned from the incubation of simulated experiences in nursing and healthcare. These lessons will serve other areas well in the design and depth to which simulated case scenarios and activities may support the standardized curriculum. Simulation is an augmented method to apply and integrate knowledge while developing critical thinking and decision-making skills in a safe, simulated environment (Bradley, 2003; Eisler, 2005; Medley & Horne, 2005;Rauen, 2004). Such skills are best learned through experience and practice (Rauen). This will be the overarching goal of all simulated case scenarios throughout the College.

SPACE:
The Simulation Centre activities were incubated in the Centre of Health Sciences and in particular the nursing curriculum. Now, the time has come to expand the Simulation Centre beyond its fixed four walls so that it can serve the Division of Community Services and other areas of the College. Coupled with this curricular expansion focusing on interprofessional practice is the realization that the Simulation Centre must also be designed for future usage in different shapes and forms. ie. “Sim-on-the-go”, School of Business human resource practicum and business boardroom. The new way of thinking of the Simulation Centre is that it is a proverbial a home base but its influence will extend out all across all campuses in different formats. The servicing of a whole new generation of learners is the next key commitment for the practice of Simulation.

Therefore, the other five questions presented at the beginning of this document will need to be answered from a Divisional perspective. To answer these questions holistically there must be an organized process leading to the future-scape charette entitled: Reimagining the Simulation Centre Project:

The purpose of this project is four-fold:

1. To collect program evaluation data to evaluate ongoing integration, implementation, and utilization of simulation in curriculum
2. To identify representative members of the Division who will be responsible for simulation in their respective areas. Establishment of the College wide Simulation Committee.
3. Collaborate with the group in sharing, developing and analyzing effective teaching and learning strategies for the implementation of simulation into their respective curricula. Create an inventory College wide of best practices and promising practices with respect to Simulation teaching and learning.

4. To disseminate findings and refine the process.

Surveys and focus group discussions provided descriptive data used to determine student and faculty perceptions of perceived and actual transference of learning, self confidence, preparedness and suggestions for future utilization.

EVALUATION:
The use of the simulated practice experience utilizing simulation as a teaching strategy in the Divisions curricula is consistent with cognitive learning theory as transfer of learning is facilitated in a realistic environment; immediate feedback is incorporated, and it provides the opportunity to learn from and correct errors (Feingold, Calaluce, & Kallen, 2004). Other professions, such as medicine, the military and aeronautics, have utilized simulation to ensure learner/user proficiency and ultimately the safety of the public.

Practical education capacity will be increased using simulation as an adjunct and bridge between theory and practice. Each group would initially devote one day out of their placement/internship to a simulation and other simulation related activities (workshops, case study review, boot camps) which would count towards their required hours of practical learning.

Quantifiable measures used to measure the effectiveness of implementing simulated learning experiences included cost of resources, number of simulated experiences implemented, number of students participating in simulated learning, total learning hours delivered, number of faculty trained, and the perceptions of students and faculty.

CAPACITY:
To improve education capacity, faculty members will have time documented in their respective standard work form that will include a commitment to being onsite supporters/champions of simulation. Faculty members will be responsible for creating a plan of simulation action that would encompass the learning plan related to their chosen aspect of simulation, curricular outcomes, student interests, student goals, student learning needs in relation to the domains of practice. They will also include a leadership practice inventory, strategies, and timelines and an evaluation against a rubric of quality.

SUSTAINABILITY AND RESEARCH:
With respect to sustainable practices, the contracted time with the faculty must be annualized into the base budget. The simulation faculty member will be the point of contact person for the Simulation Centre. They will address all the curricular needs and sequencing of the staged simulations. A full-time simulation technologist will be responsible for the operational logistics of simulation, maintenance and repairs of technology and equipment, and organization of supplies. A full-time student support officer could provide hands-on customer service, be responsible for scheduling, coordinating between departments for IPP opportunities, order of supplies and equipment and any other responsibilities that present themselves.

With respect to cost-effectiveness, the faculty member will work in conjunction with the technologist to determine the level of fidelity the particular simulation activity would require (low, high, hybrid fidelity). They will provide in-service sessions for faculty regarding running the simulation in their absence, selection of scenarios, and prep required.

A segregated simulation fund should be set up to separately deal with the demands and specific costs required of the Simulation Centre. Strategies for managing the annual costs of the various simulations including extended warranties on capital equipment, repairs, IT needs, and supplies need to be addressed.

Quality Assurance:
Research is at the core of what we do. Research will serve to ensure the quality standards that we are trying to achieve. McGaffic (2021), in his paper entitled benefits of Simulation Education outlines a detailed five step process in the creation and assembly of Simulation. Each one of these steps is foundationally underpinned by a strong research component. By conducting research and gathering data and metrics against these crucial steps, the researchers will be able to build best practice and promising practices while ensuring quality assurance of the experience.

CONCLUSION:
This paper explores the future with respect to Simulation practice in the post-secondary education sector. Throughout time, educators in the field of Simulation have agreed that simulation increases proficiency, critical thinking skills, confidence, competence, and ability to apply and adapt in practice settings.

The future-scape project undertaken by our College has established a starting point and pathway for future utilization and integration of simulation. By respecting the past and embracing the future, the shaping and creation of a new model for simulation at our College has begun. There will be a lot of stakeholder involvement with focus groups of students, faculty, sector and industry. Together with our collective and collaborative thinking we will begin to lay the foundations for a new blueprint that will ultimately lead to a reinvigorated Simulation Centre. Ongoing collection and analysis of simulation studies coupled with strong evidence-based practices will shape our future curriculum. This new content and commitment will lead to producing graduates in all our programs that are employer-ready and are highly trained. This very important work will pay big dividends to the overall health of our patients, clients and society.

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